

WHAT IS CLAIMED IS:

1. A method of forming a dielectric insulation layer over a metallic conductor of a processed product, comprising the steps of:
 - a) extruding dielectric over a metallic conductor; and
 - b) heating the dielectric to a temperature substantially below that of the sintering temperature of the dielectric to form a sintered dielectric skin over an unsintered dielectric core.
2. A method as defined in claim 1, wherein the dielectric is a generally non-melt processable thermoplastic.
3. A method as defined in claim 1, wherein the dielectric is polytetrafluoroethylene (PTFE).
4. A method as defined in claim 3, wherein the step of heating includes heating the PTFE to a temperature of about 500° F.
5. A method as defined in claim 3, wherein the step of extruding includes extruding PTFE with an extruding aid.
6. A method as defined in claim 5, wherein the extruding aid is a petroleum solvent.
7. A method as defined in claim 6, wherein the petroleum solvent is VMP Naphtha.
8. A method as defined in claim 7, wherein the VMP Naphtha is present at about 16% to about 20% by weight relative to PTFE.
9. A method as defined in claim 5, further including after step a) the step of vaporizing the extruding aid out of the PTFE.
10. A method as defined in claim 9, wherein the temperature for vaporizing the extruding aid is about 450° F.

11. A method as defined in claim 3, wherein the step of heating includes moving the processed product through at least one sintering zone for incomplete sintering of the PTFE.

12. A method as defined in claim 3, wherein the step of heating includes moving the processed product at about 14 feet/minute through at least one sintering zone.

13. A method as defined in claim 9, wherein the step of vaporizing includes moving the processed product through at least one vaporizing zone.

14. A method as defined in claim 9, wherein the step of vaporizing includes moving the processed product at about 14 feet/minute through at least one vaporizing zone.

15. A method as defined in claim 3, wherein the PTFE skin is about 0.003 inches to about 0.005 inches in thickness.

16. A method as defined in claim 3, wherein the PTFE core is about 0.092 to about 0.094 inches in thickness.

17. A product having an incomplete sintered PTFE layer made according to the process of claim 3.

18. A method of forming a polytetrafluoroethylene (PTFE) insulation layer over a metallic conductor of a processed product, comprising the steps of:

extruding PTFE with an extruding aid over a metallic conductor;

vaporizing the extruding aid out of the PTFE; and

heating the PTFE to a temperature substantially below that of the sintering temperature of PTFE to form a sintered PTFE skin over an unsintered PTFE core.

19. A method as defined in claim 18, wherein the step of vaporizing includes vaporizing the extruding aid out of the PTFE at a temperature of about 450° F.

20. A method as defined in claim 18, wherein the step of heating includes heating the PTFE to a temperature of about 500° F.

21. A method as defined in claim 18, further including the step of conveying the processed product at a generally constant speed through at least one vaporizing zone and at least one heating zone during the steps of vaporizing and heating, respectively.

22. A method as defined in claim 21, wherein the step of conveying includes conveying the processed product at about 14 feet/minute.

23. A method as defined in claim 18, wherein the PTFE skin is about 0.003 inches to about 0.005 inches in thickness.

24. A method as defined in claim 18, wherein the PTFE core is about 0.092 to about 0.094 inches in thickness.

25. A method of forming a polytetrafluoroethylene (PTFE) insulation layer over a metallic conductor of a processed product, comprising the steps of:

conveying the processed product at a generally constant speed during a fabrication process that includes:

extruding PTFE with an extruding aid through a die and over a metallic conductor;

vaporizing the extruding aid out of the PTFE at a temperature of about 450° F; and

heating the PTFE to a temperature of about 500° F to form a sintered PTFE skin over an unsintered PTFE core.

26. A method as defined in claim 25, wherein the step of conveying includes conveying the processed product at a speed of about 14 feet/minute.

27. A method as defined in claim 25, wherein the PTFE skin is about 0.003 inches to about 0.005 inches in thickness.

28. A method as defined in claim 25, wherein the PTFE core is about 0.092 to about 0.094 inches in thickness.